

## 10961 – Automating Administration with Windows PowerShell

### COURSE OVERVIEW:

This course provides students with the fundamental knowledge and skills to use Windows PowerShell for administering and automating administration of Windows servers. This course provides students the skills to identify and build the command they require to perform a specific task. In addition, students learn how to build scripts to accomplish advanced tasks such as automating repetitive tasks and generating reports. This course provides prerequisite skills supporting a broad range of Microsoft products, including Windows Server, Windows Client, Microsoft Exchange Server, Microsoft SharePoint Server, Microsoft SQL Server, System Center, and more. In keeping with that goal, this course will not focus on any one of those products, although Windows Server, which is the common platform for all those products, will serve as the example for the techniques this course teaches.

### WHO WILL BENEFIT FROM THIS COURSE?

This course is intended for IT Professionals already experienced in general Windows Server and Windows Client administration or already experienced in administering and supporting Application servers and services including applications like Exchange, SharePoint, and SQL. It is broadly intended for students who want to use Windows PowerShell to automate administrative tasks from the command line, using any Microsoft or independent software vendor (ISV) product that supports Windows PowerShell manageability. This course is not intended to be a scripting or programming course and includes only basic coverage of scripting and programming topics. Students are not expected to have prior scripting or programming experience and are not expected to have prior Windows PowerShell experience.

### PREREQUISITES:

20410

### COURSE OBJECTIVES:

- Identify and build the command they require to perform a specific task
- Build scripts to accomplish advanced tasks such as automating repetitive tasks and generating reports

### COURSE OUTLINE:

#### Lesson 1: Getting Started with Windows PowerShell

- Overview and background of Windows Powershell
- Understanding command syntax
- Finding Commands

#### Lesson 2: Cmdlets for administration

- Active Directory administration cmdlets
- Network configuration cmdlets
- Other server administration cmdlets

#### Lesson 3: Working with the Windows PowerShell pipeline

- Understanding the pipeline
- Selecting, sorting, and measuring objects
- Filtering objects out of the pipeline
- Enumerating objects in the pipeline
- Sending pipeline data as output

**Lesson 4: Understanding how the pipeline works**

- Passing the pipeline data
- Advanced considerations for pipeline data

**Lesson 5: Using PSProviders and PSDrives**

- Using PSProviders
- Using PSDrives

**Lesson 6: Querying system information by using WMI and CIM**

- Understanding WMI and CIM
- Querying Data with WMI and CIM
- Making Changes with WMI/CIM

**Lesson 7: Working with variables, arrays, and hash tables**

- Using Variables
- Manipulating variables.
- Manipulating arrays and hash tables.

**Lesson 8: Basic scripting**

- Introduction to scripting
- Scripting constructs
- Importing data from files

**Lesson 9: Advanced scripting**

- Accepting user input
- Overview of script documentation
- Troubleshooting and error handling
- Functions and modules

**Lesson 10: Administering Remote Computers**

- Using basic Windows PowerShell remoting
- Using advanced Windows PowerShell remoting techniques
- Using PSSessions

**Lesson 11: Using Background Jobs and Scheduled Jobs**

- Using Background Jobs
- Using Scheduled Jobs

**Lesson 12: Using advanced Windows PowerShell Techniques**

- Creating Profile Scripts
- Using advanced techniques

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